

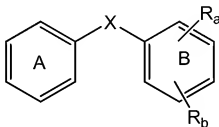
Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

Claims 1-3 CANCELED

4. (currently amended) A compound comprising the structure of formula I:  
wherein:



- Ring A is optionally substituted with one to five ~~substituted~~ substituents selected from

- a) a C<sub>1</sub>, C<sub>2</sub>, C<sub>3</sub>, C<sub>4</sub> or C<sub>5</sub> branched or straight-chain lower alkoxy, cycloalkoxy, heterocycloalkoxy, aryloxy, or lower alkanoyloxy; or
- b) a halogen or trihaloalkyl;
- ~~e) a C<sub>1</sub>, C<sub>2</sub>, C<sub>3</sub>, C<sub>4</sub> or C<sub>5</sub> branched or straight chain lower alkyl, allyl, allyloxy, vinyl, or vinyloxy;~~
- d) an OH, or a C<sub>1</sub>, C<sub>2</sub>, C<sub>3</sub>, C<sub>4</sub> or C<sub>5</sub> primary, secondary, or tertiary alcohol;
- e) NH<sub>2</sub> or an amino, lower-alkylamino, arylamino, aralkylamino, cycloalkylamino, heterocycloamino, aroylamino, aralkanoylamino, amido, lower-alkylamino, arylamido, cycloalkylamido, heterocycloamido, aroylamido, or aralkanoylamido; or
- f) ~~oxo, lower alkanoyl, thio, sulfonyl, sulfonamide, nitro, nitrosyl, cyano, carboxy, carbamyl, aryl, or heterocycle;~~

- Ring B comprises at least one structure denoted by  $R_a$  and  $R_b$  which represent an *ortho*-quinone moiety  $(-(C=O)-(C=O)-)$ , *ortho*-catechol  $(-(C-OH)-(C-OH)-)$  or *ortho*-catechol pro-drug moiety  $(-(C-O-Prodrug\ moiety)-(C-O-Prodrug\ moiety)-)$ ; and the remaining carbons of Ring B are optionally substituted with one to five substituents selected from

g a) a  $C_1$ ,  $C_2$ ,  $C_3$ ,  $C_4$  or  $C_5$  branched or straight-chain lower alkoxy, cycloalkoxy, heterocycloalkoxy, aryloxy, or lower alkanoyloxy;

h b) a halogen or trihaloalkyl;

i c) a  $C_1$ ,  $C_2$ ,  $C_3$ ,  $C_4$  or  $C_5$  branched or straight chain lower alkyl, allyl, allyloxy, vinyl, or vinyloxy; or

j d) an OH, or a  $C_1$ ,  $C_2$ ,  $C_3$ ,  $C_4$  or  $C_5$  primary, secondary, or tertiary alcohol;

k)  ~~$NH_2$  or an amino, lower alkylamino, arylamino, aralkylamino, cycloalkylamino, heterocycloamino, aroylamino, aralkanoylamino, amido, lower alkylamino, arylamido, cycloalkylamido, heterocycloamido, aroylamido, or aralkanoylamido; or~~

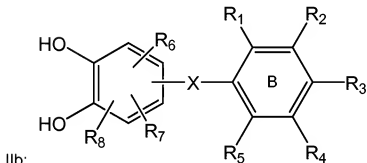
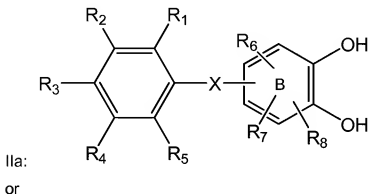
l e) ~~exo, lower alkanoyl, thio, sulfonyl, sulfonamide, nitro, nitrosyl, cyano, carboxy, carbamyl, aryl, or heterocycle; and~~

- Bridge X is ~~selected from the group consisting of alkenes~~ an alkene  $(-CR_9=CR_{10}-)$ , alkanes  $(CR_8-CR_{11}R_{12})$ , alkynes, amides  $(-NR_9-CO=)$ , amines  $(-NH-$ ,  $-NR_9-$ , or  $-CR_9-N-)$ , carbonyl  $(-CO-)$ , ethers  $(-C-R_8-O-)$ , sulfonamides  $(-NR_9-SO_2-)$ , sulfonates  $(-O-SO_2-)$ , aryls, exo  $(-O-$  or  $-O-R_8-)$ , thio  $(-S-)$  cycloalkyls, propanones  $(-(C=O)-CR_8-CR_9-)$ ; wherein  $R_8$ ,  $R_9$ ,  $R_{10}$ , or  $R_{11}$ ,  $R_9$  and  $R_{10}$ , are alternatively H, alkyl, amino, amido, cyano, hydroxyl, or carboxyl;

provided that said compound is not combretastatin A1 or a salt, ester, or prodrug thereof.

Claims 5 - 9 CANCELED

10. (currently amended) A compound comprising a quinone, quinone prodrug, or a pharmaceutically acceptable salt form thereof having one of the following general structures:



wherein:

- a. at least one of R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub>, R<sub>6</sub>, R<sub>7</sub> or R<sub>8</sub> are the same or different and are selected from:
  - i) a C<sub>1</sub>, C<sub>2</sub>, C<sub>3</sub>, C<sub>4</sub> or C<sub>5</sub> branched or straight-chain lower alkoxy, cycloalkoxy, heterocycloalkoxy, aryloxy, or lower alkanoyloxy;
  - ii) a halogen or trihaloalkyl;
  - iii) a C<sub>1</sub>, C<sub>2</sub>, C<sub>3</sub>, C<sub>4</sub> or C<sub>5</sub> branched or straight chain lower alkyl, allyl, allyloxy, vinyl, or vinyloxy;
  - iv) an OH, or a C<sub>1</sub>, C<sub>2</sub>, C<sub>3</sub>, C<sub>4</sub> or C<sub>5</sub> primary, secondary, or tertiary alcohol; or
  - v) ~~NH<sub>2</sub> or an amino, lower alkylamino, arylamino, aralkylamino, cycloalkylamino, heterocycloamino, areylamino, aralkanoylamino, amido, lower alkylamino,~~

arylamido, cycloalkylamido, heterocycloamido, aroylamido, or

aralkanoylamido; or

vi) ~~oxo, lower alkanoyl, thio, sulfonyl, sulfonamide, nitro, nitrosyl, cyano, carboxy, carbamyl, aryl, or heterocycle;~~

and the remaining R<sub>1</sub>, R<sub>2</sub>, R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub>, R<sub>6</sub>, R<sub>7</sub>, or R<sub>8</sub> are H; and

- b. ~~X is selected from the group consisting of alkenes~~ an alkene (-CR<sub>9</sub>=CR<sub>10</sub>-),  
 alkanes (CR<sub>9</sub>-CR<sub>11</sub>R<sub>12</sub>), alkynes, amides (-NR<sub>9</sub>-CO-), amines (-NH-, NR<sub>9</sub>-, or -  
 CR<sub>9</sub>-N-), carbonyl (-CO-), ethers (-C-R<sub>8</sub>-O-), sulfonamides (-NR<sub>8</sub>-SO<sub>2</sub>-),  
 sulfonates (-O-SO<sub>2</sub>-), aryls, oxo (-O- or -O-R<sub>8</sub>-), thio (-S-) cycloalkyls,  
 propanones (-C(=O)-CR<sub>9</sub>=CR<sub>9</sub>-); wherein R<sub>8</sub>, R<sub>9</sub>, R<sub>10</sub>, or R<sub>11</sub> R<sub>9</sub> and R<sub>10</sub> are  
 alternatively H, alkyl, amino, amido, cyano, hydroxyl, or carboxyl

provided that said compound is not combretastatin A1 or a salt, ester, or prodrug thereof.

11. (canceled)

12. (original) The compound of claim 11, wherein ~~the covalent linkage~~ X is an ethylene group (-CH=CH-), and Rings A and B are in a cis (Z) isomeric configuration.

13. (original) The compound of claim 12, wherein R<sub>2</sub>, R<sub>3</sub> and R<sub>4</sub> are methoxy.

14. (original) The compound of claim 13, wherein R<sub>8</sub> is selected from:

- i) a C<sub>1</sub>, C<sub>2</sub>, C<sub>3</sub>, C<sub>4</sub> or C<sub>5</sub> branched or straight-chain lower alkoxy, cycloalkoxy, heterocycloalkoxy, aryloxy, or lower alkanoyloxy;
- ii) a halogen or trihaloalkyl;
- iii) a C<sub>1</sub>, C<sub>2</sub>, C<sub>3</sub>, C<sub>4</sub> or C<sub>5</sub> branched or straight chain lower alkyl, allyl, allyloxy, vinyl, or vinyloxy;
- iv) an OH, or a C<sub>1</sub>, C<sub>2</sub>, C<sub>3</sub>, C<sub>4</sub> or C<sub>5</sub> primary, secondary, or tertiary alcohol; or
- v) ~~NH<sub>2</sub> or an amino, lower alkylamino, arylamino, aralkylamino, cycloalkylamino, heterocycloamino, aroylamino, aralkanoylamino, amido, lower alkylamino, arylamido, cycloalkylamido, heterocycloamido, aroylamido, or aralkanoylamido;~~

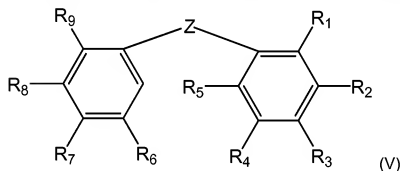
vi v) ~~oxo, lower alkanoyl, thio, sulfonyl, sulfonamide, nitro, nitrosyl, cyano, carboxy, carbamyl, aryl, or heterocycle;~~  
and the remaining R<sub>1</sub>, R<sub>5</sub>, R<sub>6</sub>, and R<sub>7</sub> are H.

15. (original) The compound of claim 14, wherein R<sub>8</sub> is OH or -O-CH<sub>2</sub>-CH=CH<sub>2</sub>.

16. (original) The compound of claim 4, wherein said catechol is a biooxidative agent which is oxidatively activated *in vivo* to form a quinone capable of participating in a redox cycling reaction to form one or more Reactive Oxygen Species ("ROS").

Claims 17-33 CANCELED

34. (currently amended) A composition of the following formula (V):



wherein

- a. Z is an ethylene (-CH=CH-) bridge in the cis (Z) isomeric configuration;
- b. R<sub>1</sub> and R<sub>2</sub> are OH or a prodrug form thereof;
- c. at least one of R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub>, R<sub>6</sub>, R<sub>7</sub>, R<sub>8</sub>, and R<sub>9</sub> are optionally
  - i) a C<sub>1</sub>, C<sub>2</sub>, C<sub>3</sub>, C<sub>4</sub> or C<sub>5</sub> branched or straight-chain lower alkoxy, cycloalkoxy, heterocycloalkoxy, aryloxy, or lower alkanoyloxy;
  - ii) a halogen or trihaloalkyl;
  - iii) a C<sub>1</sub>, C<sub>2</sub>, C<sub>3</sub>, C<sub>4</sub> or C<sub>5</sub> branched or straight chain lower alkyl, allyl, allyloxy, vinyl, or vinyloxy; or
  - iv) an OH, or a C<sub>1</sub>, C<sub>2</sub>, C<sub>3</sub>, C<sub>4</sub> or C<sub>5</sub> primary, secondary, or tertiary alcohol;

v) ~~NH<sub>2</sub> or an amino, lower alkylamino, arylamino, aralkylamino, cycloalkylamino, heterocycloamino, aroylamino, aralkanoylamino, amido, lower alkylamino, arylamido, cycloalkylamido, heterocycloamido, aroylamido, or aralkanoylamido;~~

vi) v) ~~oxo, lower alkanoyl, thio, sulfonyl, sulfonamide, nitro, nitrosyl, cyano, carboxy, carbamyl, aryl, or heterocycle; and~~

the remaining R<sub>3</sub>, R<sub>4</sub>, R<sub>5</sub>, R<sub>6</sub>, R<sub>7</sub>, R<sub>8</sub> and R<sub>9</sub> are hydrogen.

35. (original) The composition of claim 34, wherein at least three of R<sub>6</sub>, R<sub>7</sub>, R<sub>8</sub>, and R<sub>9</sub> are not hydrogen.

36. (original) The composition of claim 35, wherein R<sub>6</sub>, R<sub>7</sub> and R<sub>8</sub> are the same.

37. (original) The composition of claim 36, wherein R<sub>6</sub>, R<sub>7</sub> and R<sub>8</sub> are methoxy.

38. (currently amended) The composition of claim 37, wherein R<sub>3</sub> is

i) a C<sub>1</sub>, C<sub>2</sub>, C<sub>3</sub>, C<sub>4</sub> or C<sub>5</sub> branched or straight-chain lower alkoxy, cycloalkoxy, heterocycloalkoxy, aryloxy, or lower alkanoyloxy;

ii) a halogen or trihaloalkyl;

iii) a C<sub>1</sub>, C<sub>2</sub>, C<sub>3</sub>, C<sub>4</sub> or C<sub>5</sub> branched or straight chain lower alkyl, allyl, allyloxy, vinyl, or vinyloxy;

iv) an OH, or a C<sub>1</sub>, C<sub>2</sub>, C<sub>3</sub>, C<sub>4</sub> or C<sub>5</sub> primary, secondary, or tertiary alcohol; or

v) ~~NH<sub>2</sub> or an amino, lower alkylamino, arylamino, aralkylamino, cycloalkylamino, heterocycloamino, aroylamino, aralkanoylamino, amido, lower alkylamino, arylamido, cycloalkylamido, heterocycloamido, aroylamido, or aralkanoylamido;~~

vi) oxo, lower alkanoyl, thio, sulfonyl, sulfonamide, nitro, nitrosyl, cyano, carboxy, carbamyl, aryl, or heterocycle; and

R<sub>4</sub>, R<sub>5</sub>, and R<sub>9</sub> are hydrogen.

39. (previously presented) The composition of claim 38, wherein  $R_3$  is  $-\text{CH}_3$ ,  $-\text{CH}_2\text{CH}_3$ ,  $-\text{OCH}_2\text{CH}_3$ ,  $-\text{F}$ ,  $-\text{Br}$ ,  $-\text{CF}_3$ ,  $-\text{CBr}_3$ ,  $-\text{OH}$ ,  $-\text{O}-\text{CH}_2-\text{CH}=\text{CH}_2$ ,  $-\text{CH}_2-\text{CH}=\text{CH}_2$ ,  $-\text{NH}_2$ ,  $-\text{NO}_2$ ,  $-\text{cyano}$ , or  $-\text{carboxy}$ , ~~or~~  $-\text{benzyl}$ .

40. (original) The composition of claim 39, wherein  $R_6$ ,  $R_7$ , and  $R_8$  are F.

41. (original) The composition of claim 40, wherein  $R_3$  is

- i) a  $\text{C}_1$ ,  $\text{C}_2$ ,  $\text{C}_3$ ,  $\text{C}_4$  or  $\text{C}_5$  branched or straight-chain lower alkoxy, cycloalkoxy, heterocycloalkoxy, aryloxy, or lower alkanoyloxy;
- ii) a halogen or trihaloalkyl;
- iii) a  $\text{C}_1$ ,  $\text{C}_2$ ,  $\text{C}_3$ ,  $\text{C}_4$  or  $\text{C}_5$  branched or straight chain lower alkyl, allyl, allyloxy, vinyl, or vinyloxy;
- iv) an OH, or a  $\text{C}_1$ ,  $\text{C}_2$ ,  $\text{C}_3$ ,  $\text{C}_4$  or  $\text{C}_5$  primary, secondary, or tertiary alcohol;
- v)  ~~$\text{NH}_2$  or an amino, lower alkylamino, arylamino, aralkylamino, cycloalkylamino, heterocycloamino, aroylamino, aralkanoylamino, amide, lower alkylamino, arylamido, cycloalkylamido, heterocycloamido, aroylamido, or aralkanoylamido;~~
- vi) oxo, lower alkanoyl, thio, sulfonyl, sulfonamide, nitro, nitrosyl, cyano, carboxy, carbamyl, aryl, or heterocycle; and

$R_4$ ,  $R_5$ , and  $R_9$  are hydrogen.

42. (previously presented) The composition of claim 41, wherein  $R_3$  is  $-\text{CH}_3$ ,  $-\text{CH}_2\text{CH}_3$ ,  $-\text{OCH}_2\text{CH}_3$ ,  $-\text{F}$ ,  $-\text{Br}$ ,  $-\text{CF}_3$ ,  $-\text{CBr}_3$ ,  $-\text{OH}$ ,  $-\text{O}-\text{CH}_2-\text{CH}=\text{CH}_2$ ,  $-\text{CH}_2-\text{CH}=\text{CH}_2$ ,  $-\text{NH}_2$ ,  $-\text{NO}_2$ ,  $-\text{cyano}$ ,  $-\text{carboxy}$ , or  $-\text{benzyl}$ .

Claims 43-56            CANCELED

57. (original) A composition selected from the group consisting of

- 6-[(Z)-2-(3,4,5-Trimethoxyphenyl) vinyl]-1,2-dihydroxybenzene,
- 3-Ethyl-6-[(Z)-2-(3,4,5-trimethoxyphenyl)vinyl]-1,2-dihydroxybenzene,
- 3-Methyl-6-[(Z)-2-(3,4,5-trimethoxyphenyl)vinyl]-1,2-dihydroxybenzene,
- 4-Bromo-6-[(Z)-2-(3,4,5-trimethoxyphenyl)vinyl]-1,2-dihydroxybenzene,

4-Phenyl-6-[(Z)-2-(3,4,5-trimethoxyphenyl)vinyl]-1,2-dihydroxybenzene,  
3-Allyl-6-[(Z)-2-(3,4,5-trimethoxyphenyl)vinyl]-1,2-dihydroxybenzene,  
4-Fluoro-6-[(Z)-2-(3,4,5-trimethoxyphenyl)vinyl]-1,2-dihydroxybenzene,  
2,3,4-Trihydroxy-6-[(Z)-2-(3,4,5-trimethoxyphenyl)vinyl]-benzene,  
2,3-Dihydroxy-4-ethoxy-6-[(Z)-2-(3,4,5-trimethoxyphenyl)vinyl]-benzene,  
2,3-Dihydroxy-4-allyloxy-6-[(Z)-2-(3,4,5-trimethoxyphenyl)vinyl]-benzene,  
4-Nitro-6-[(Z)-2-(3,4,5-trimethoxyphenyl)vinyl]-2,3-dihydroxybenzene,  
2',3'-dihydroxy -3,5 dichloro-4'-dimethoxy-(Z)-stilbene,  
2',3' dihydroxy-4'-methoxy-3,4,5-trifluoro-(Z)-stilbene,  
2,3-Dihydroxy-4-methoxy-[(Z)-2-(3,4,5-trimethoxyphenyl) Beta-lactam]-benzene,  
2',3' diphosphate-3,4,5-trimethoxy-(Z)-stilbene, tetrasodium salt;  
3',4' diphosphate-3,4,5-trimethoxy-(Z)-stilbene, tetrasodium salt;  
and combinations thereof.

58.(new) The compound of claim 4, wherein X is an ethylene group (-CH=CH-), and Rings A and B are in a cis (Z) isomeric configuration